

Claims

1. A self-locking shaft (1), comprising:

5 a. a shaft portion (10);

b. a head portion (20) for mounting of the shaft (1) at a support (50); wherein

10 c. the head portion (20) comprises resilient clips (30), which latch with the support (50) during a rotational mounting motion of the shaft (1) with respect to the support (50).

15 2. Self-locking shaft according to claim 1, wherein the clips (30) are provided as resilient straps which radially extend from a cup-shaped portion (22) to the outside.

20 3. Self-locking shaft according to one of the claims 1 or 2, wherein the clips (30) are connected to the cup-shaped portion (22) at one side of the clips (30) only and wherein the connection line is axially oriented with respect to the shaft (1).

4. Self-locking shaft according to one of the claims 1 - 3, wherein the clips (30) comprise a rectangular shape and an axially curved radial top surface.

25 5. Self-locking shaft according to one of the claims 1 - 4, wherein the shaft (1) comprises a pin (40), which is connected to the head portion (20) in axial direction and which secures the shaft (1) after the assembly from undesired rotation.

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6. Self-locking shaft according to one of the claims 1 - 5, wherein the shaft (1) comprises a handle area (23) at the head portion (20) for manual assembly of the shaft (1) in the support (50) without tools.
- 5 7. Self-locking shaft according to one of the claims 1 - 6, wherein the shaft (1) and all its components (10, 20, 30, 40) are integrally injection molded from a plastic material.
8. Support (50) for receiving a self-locking shaft (1), comprising:
 - 10 a. an essentially cylindrically socket (60), which is integrated within the support (50); and
 - 15 b. at least one latching window (64) for receiving a clip (30) during the latching of the shaft (1) with the support (50) by a rotation; wherein
 - c. the latching window (64) is radially introduced into the cylindrical wall of the socket (60).
- 20 9. Support according to claim 8, further comprising a pin guidance (70), which is provided as a curved elongated hole.
10. Support according to one of the claims 8 - 9, wherein the socket (60) further comprises at least one axially curved recess (63) for receiving a clip (30) during the insertion of the shaft (1) into the support (50).
- 25 11. Pedal system, particularly for automotive engineering, comprising a self-locking shaft (1) and/or a support (50) for a self-locking shaft according to one of the previous claims 1 to 10.

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12. Parking brake lever system, particularly for automotive engineering, comprising a self-locking shaft (1) and/or a support (50) for a self-locking shaft according to one of the previous claims 1 to 10.

5 13. Method for the assembly of a shaft (1) within a support respectively a housing (50), comprising the following steps in the following sequence:

1. Inserting the shaft (1) in axial direction (I) into a corresponding socket (60) within the support (50);

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2. Rotating the shaft (1) around its rotational axis, until clips (30), which extend radially from the shaft (1), snap into a latching window (64) within the socket (60).

15 14. Method according to claim 13, wherein the rotation of the shaft (1) is performed around an angle of less or equal 180°.

15. Method according to claim 13, wherein the rotation of the shaft (1) is performed around an angle of less or equal 90°.